

INTERNATIONAL APPLICATION  
UNDER THE  
PATENT COOPERATION TREATY  
REQUEST

THE UNDERSIGNED REQUESTS THAT THE PRESENT  
INTERNATIONAL APPLICATION BE PROCESSED  
ACCORDING TO THE PATENT COOPERATION TREATY

(The following is to be  
INTERNATIONAL  
APPLICATION No: ) by the receiving Office)

INTERNATIONAL  
FILING DATE:

(Stamp)  
Name of receiving Office and "PCT International Application"

Applicant's or Agent's File Reference  
(indicated by applicant if desired) 576P1

Box No. I TITLE OF INVENTION

GLYCOPROTEIN HORMONE RECEPTOR MOLECULES

Box No. II APPLICANT (WHETHER OR NOT ALSO INVENTOR); DESIGNATED STATES FOR WHICH HE/SHE/IT IS APPLICANT. Use this box for indicating the applicant or, if there are several applicants, one of them. If more than one person (includes, where applicable, a legal entity) is involved, continue in Box No. III.

The person identified in this box is (check one only): ☐ applicant and inventor\* ☒ applicant only

Name and address:\*\*

GENENTECH, INC.  
460 Point San Bruno Boulevard  
South San Francisco, California 94080  
United States of America

Telephone number:  
(including area code) 415-266-1000

Telegraphic address:

Teleprinter address: 825034

Country of nationality: US

Country of residence:\*\*\* US

The person identified in this box is *applicant* for the purposes of (check one only):

☐ all designated States ☒ all designated States except the United States of America ☐ the United States of America only ☐ the States indicated in the "Supplemental Box"

Box No. III FURTHER APPLICANTS, IF ANY; (FURTHER) INVENTORS, IF ANY; DESIGNATED STATES FOR WHICH THEY ARE APPLICANTS (IF APPLICABLE). A separate sub-box has to be filled in in respect of each person (includes, where applicable, a legal entity). If the following two sub-boxes are insufficient, continue in the "Supplemental Box," (giving there for each additional person the same indications as those requested in the following two sub-boxes) or by using a "continuation sheet."

The person identified in this sub-box is (check one only): ☒ applicant and inventor\* ☐ applicant only ☐ inventor only\*

Name and address:\*\*

NIKOLICS, Karoly  
209 Club Drive  
San Carlos, California 94070  
United States of America

If the person identified in this sub-box is *applicant* (or *applicant and inventor*), indicate also:

Country of nationality: HU

Country of residence:\*\*\* US

and whether that person is *applicant* for the purposes of (check one only):

☐ all designated States ☐ all designated States except the United States of America ☒ the United States of America only ☐ the States indicated in the "Supplemental Box"

The person identified in this sub-box is (check one only): ☒ applicant and inventor\* ☐ applicant only ☐ inventor only\*

Name and address:\*\*

McFARLAND, Keith C.  
1905 Berryman Street  
Berkeley, California 94709  
United States of America

If the person identified in this sub-box is *applicant* (or *applicant and inventor*), indicate also:

Country of nationality: US

Country of residence:\*\*\* US

and whether that person is *applicant* for the purposes of (check one only):

☐ all designated States ☐ all designated States except the United States of America ☒ the United States of America only ☐ the States indicated in the "Supplemental Box"

\* If the person indicated as "applicant and inventor" or as "inventor only" is not an *inventor* for the purposes of all the designated States, give the necessary indications in the "Supplemental Box."

\*\* Indicate the name of a natural person by giving his/her family name first followed by the given name(s). Indicate the name of a legal entity by its full official designation. In the address, include both the postal code (if any) and the country (name).

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Box No. III CONTINUATION (IF REQUIRED) FURTHER APPLICANTS, IF ANY; (FURTHER) INVENTORS, IF ANY; DESIGNATED STATES FOR WHICH THEY ARE APPLICANTS (IF APPLICABLE). A separate sub-box has to be filled in in respect of each person (includes, where applicable, a legal entity).

The person identified in this sub-box is (check one only): ☒ applicant and inventor\* ☐ applicant only ☐ inventor only\*

Name and address:\*\*

SEGALOFF, Deborah L.  
661 Tilden Avenue  
Teaneck, New Jersey 07666  
United States of America

If the person identified in this sub-box is *applicant* (or *applicant and inventor*), indicate also:

Country of nationality: US

Country of residence:\*\*\* US

and whether that person is *applicant* for the purposes of (check one only):

☐ all designated States

☐ all designated States except  
the United States of America

☒ the United States  
of America only

☐ the States indicated  
in the "Supplemental Box"

The person identified in this sub-box is (check one only): ☒ applicant and inventor\* ☐ applicant only ☐ inventor only\*

Name and address:\*\*

SEEBURG, Peter H.  
5, Erzackerweg  
D-6900 Heidelberg  
Federal Republic of Germany

If the person identified in this sub-box is *applicant* (or *applicant and inventor*), indicate also:

Country of nationality: DE

Country of residence:\*\*\* DE

and whether that person is *applicant* for the purposes of (check one only):

☐ all designated States

☐ all designated States except  
the United States of America

☒ the United States  
of America only

☐ the States indicated  
in the "Supplemental Box"

The person identified in this sub-box is (check one only): ☐ applicant and inventor\* ☐ applicant only ☐ inventor only\*

Name and address:\*\*

If the person identified in this sub-box is *applicant* (or *applicant and inventor*), indicate also:

Country of nationality:

Country of residence:\*\*\*

and whether that person is *applicant* for the purposes of (check one only):

☐ all designated States

☐ all designated States except  
the United States of America

☐ the United States  
of America only

☐ the States indicated  
in the "Supplemental Box"

The person identified in this sub-box is (check one only): ☐ applicant and inventor\* ☐ applicant only ☐ inventor only\*

Name and address:\*\*

If the person identified in this sub-box is *applicant* (or *applicant and inventor*), indicate also:

Country of nationality:

Country of residence:\*\*\*

and whether that person is *applicant* for the purposes of (check one only):

☐ all designated States

☐ all designated States except  
the United States of America

☐ the United States  
of America only

☐ the States indicated  
in the "Supplemental Box"

\* If the person indicated as "applicant and inventor" or as "inventor only" is not an *inventor* for the purposes of all the designated States, give the necessary indications in the "Supplemental box."

\*\* Indicate the name of a natural person by giving his/her family name first followed by the given name(s). Indicate the name of a legal entity by its full official designation. In the address, include both the postal code (if any) and the country (name).

\*\*\* If residence is not indicated, it will be assumed that the country of residence is the same as the country indicated in the address.

If this continuation sheet is not used, it need not be included in the Request.

**Box No. IV AGENT (IF ANY) OR COMMON REPRESENTATIVE (IF ANY); ADDRESS FOR NOTIFICATIONS (IN CERTAIN CASES).** A common representative may be appointed only if there are several applicants and if no agent is or has been appointed; the common representative must be one of the applicants. The following person (includes, where applicable, a legal entity) is hereby/has been appointed as agent or common representative to act on behalf of the applicant(s) before the competent International Authorities:

Name and address, including postal code and country:

If the space below is used instead for an address for notifications, mark here ☐

WINTER, DARYL B  
GENENTECH, INC.  
460 Point San Bruno Boulevard  
South San Francisco, California 94080  
United States of America

Telephone number: 415-266-1249  
(including area code) Telegraphic address:

Teleprinter address: 825034

**Box No. V DESIGNATION OF GROUPS OF STATES OR STATES (1); CHOICE OF CERTAIN KINDS OF PROTECTION OR TREATMENT.** The following designations are hereby made (please mark the applicable check-boxes):

**Regional Patent**

☒ EP European Patent(2): AT Austria, BE Belgium, CH and LI Switzerland and Liechtenstein, DE Germany (Federal Republic of), DK Denmark, ES Spain, FR France, GB United Kingdom, IT Italy, LU Luxembourg, NL Netherlands, SE Sweden, and any other State which is a Contracting State of the European Patent Convention and of the PCT

☐ OA OAPI Patent: Benin, Burkina Faso, Cameroon, Central African Republic, Chad, Congo, Gabon, Mali, Mauritania, Senegal, Togo, and any other State which is a Contracting State of OAPI and of the PCT; if other OAPI title desired, specify on dotted line(3):

**National Patent (if other kind of protection or treatment desired, specify on dotted line(3))**

☐ AT Austria(3) .....  
☒ AU Australia(3) .....  
☐ BB Barbados .....  
☐ BG Bulgaria(3) .....  
☐ BR Brazil(3) .....  
☒ CA Canada .....  
☐ CH and LI Switzerland and Liechtenstein .....  
☐ DE Germany (Federal Republic of)(3) .....  
☐ DK Denmark .....  
☐ ES Spain(3) .....  
☐ FI Finland .....  
☐ GB United Kingdom .....  
☒ HU Hungary .....  
☒ JP Japan(3) .....  
☐ KP Democratic People's Republic of Korea(3) .....

☐ KR Republic of Korea(3) .....  
☐ LK Sri Lanka .....  
☐ LU Luxembourg(3) .....  
☐ MC Monaco(3) .....  
☐ MG Madagascar .....  
☐ MW Malawi(3) .....  
☐ NL Netherlands .....  
☒ NO Norway .....  
☐ RO Romania .....  
☐ SD Sudan .....  
☐ SE Sweden .....  
☐ SU Soviet Union(3) .....  
☒ US United States of America(3) Continuation in Part Application

Space reserved for designating States (for the purposes of a national patent) which have become party to the PCT after the issuance of this sheet:

- (1) The applicant's choice of the order of designations may be indicated by marking the check-boxes with sequential arabic numerals (see also the "Notes to Box No. V").  
(2) The selection of particular States for a European patent can be made upon entering the national (regional) phase before the European Patent Office (see also the "Notes to Box No. V").  
(3) If another kind of protection or a title of addition or, in the United States of America, treatment as a continuation or a continuation-in-part is desired, specify according to the instructions given in the "Notes to Box No. V."

Supplemental Box. Use this box in the following cases:

- (i) if more than three persons are involved as applicants and/or inventors; in such case, write "Continuation of Box No. III" and indicate for each additional person the same type of information as required in Box No. III;
- (ii) if, in Box No. II or any of the sub-boxes of Box No. III, the indication "the States indicated in the 'Supplemental Box.' is checked; in such case, write "Continuation of Box No. II" or "Continuation of Box No. III" or "Continuation of Boxes No. II and No. III" (as the case may be), indicate the name of the applicant(s) involved and, next to (each) such name, the country or countries (or EP or OA, if applicable) for the purposes of which he/she/it is applicant;
- (iii) if, in Box No. II or any of the sub-boxes of Box No. III, a person indicated as "applicant and inventor" or "inventor only" is not inventor for the purposes of all designated States or for the purposes of the United States of America; in such case, write "Continuation of Box No. II" or "Continuation of Box No. III" or "Continuation of Boxes No. II and No. III" (as the case may be), indicate the name of the inventor and, next to such name, the country or countries (or EP or OA, if applicable) for the purposes of which the named person is inventor;
- (iv) if there is more than one agent and their addresses are not the same; in such case, write "Continuation of Box No. IV" and indicate for each additional agent the same type of information as required in Box No. IV;
- (v) if, in Box No. V, the name of any country (or OAPI) is accompanied by the indication "patent of addition," "certificate of addition," or "inventor's certificate of addition," or if, in Box No. V, the name of the United States of America is accompanied by an indication "Continuation" or "Continuation-in-part"; in such case, write "Continuation of Box No. V" and the name of each country involved (or OAPI), and after the name of each such country (or OAPI), the number of the parent title or parent application and the date of grant of parent title or filing of parent application;
- (vi) if there are more than three earlier applications whose priority is claimed; in such case, indicate "Continuation of Box No. VI" and indicate for each additional earlier application the same type of information as required in Box No. VI;
- (vii) if, in any of the Boxes, the space is insufficient to furnish all the information; in such case, write "Continuation of Box No. ..." (indicate the number of the Box) and furnish the information in the same manner as required according to the captions of the Box in which the space was insufficient;
- (viii) if the applicant intends to claim, in respect of any designated Office, the benefit of provisions of the national law concerning non-prejudicial disclosures or exceptions to lack of novelty; in such case, write "Statement Concerning Non-prejudicial Disclosures or Exceptions to Lack of Novelty" and furnish that statement below.

#### Continuation Box IV

Also: ADLER, Carolyn R., BENSON, Robert H., BUTING, Walter E.,  
HASAK, Janet E., HENSLEY, Max D., and RAINES, Stephen

all of: GENENTECH, INC.  
460 Point San Bruno Boulevard  
South San Francisco, California 94080  
United States of America

If this Supplemental Box is not used, this sheet need not be included in the Request.

**Box No. VI PRIORITY CLAIM (IF ANY).** The priority of the following earlier application(s) is hereby claimed:

Country (country in which it was filed if national application; one of the countries for which it was filed if regional or international application)	Filing Date (day, month, year)	Application No.	Office of Filing (fill in only if the earlier application is an international application or a regional application)
(1) US	05 May 1989 (05.05.89)	347,683	
(2)			
(3)			

(Letter codes may be used to indicate country and/or Office of filing)

When the earlier application was filed with the Office which, for the purposes of the present international application, is the receiving Office, the applicant may, *against payment of the required fee*, ask the following:

☒ the receiving Office is hereby requested to prepare and transmit to the International Bureau a certified copy of the above-mentioned earlier application/of the earlier applications identified above by the numbers (insert the applicable numbers) ..... (1) .....

**Box No. VII EARLIER SEARCH (IF ANY).** Fill in where a search (international, international-type or other) by the International Searching Authority has already been requested (or completed) and the said Authority is now requested to base the international search, to the extent possible, on the results of the said earlier search. Identify such search or request either by reference to the relevant application (or the translation thereof) or by reference to the search request.

International application number or number and country (or regional Office) of other application:

International/regional/national filing date

Date of request for search:

Number (if available) given to search request:

**Box No. VIII SIGNATURE OF APPLICANT(S) OR AGENT**

GENENTECH, INC.

By Stephen RAINES  
Vice President, Intellectual Property

Keith C. MCFARLAND

Karoly NIKOLICS

Daryl W. WINTER, Agent for Deborah L. SEGALOFF & Peter H. SEEBI

If the present Request form is signed on behalf of any applicant by an agent, a separate power of attorney appointing the agent and signed by the applicant is required. If in such case it is desired to make use of a general power of attorney (deposited with the receiving Office), a copy thereof must be attached to this form.

**Box No. IX CHECK LIST (To be filled in by the Applicant)**

This international application contains the following number of sheets:

1. request	5	sheets
2. description	58	sheets
3. claims	7	sheets
4. abstract	1	sheets
5. drawings	10	sheets
<b>Total</b>	<b>81</b>	<b>sheets</b>

Figure number ..... of the drawings (if any) is suggested to accompany the abstract for publication.

This international application as filed is accompanied by the items checked below:

- |  |                            |
|--|----------------------------|
| 1. <input checked="" type="checkbox"/> separate signed power of attorney                                 | To Be Filed Within 30 Days |
| 2. <input type="checkbox"/> copy of general power of attorney  | Ordered                    |
| 3. <input checked="" type="checkbox"/> priority document(s) (see Box No. VI) Above                       |                            |
| 4. <input type="checkbox"/> receipt of the fees paid or revenue stamps                                   |                            |
| 5. <input type="checkbox"/> cheque for the payment of fees   |                            |
| 6. <input checked="" type="checkbox"/> request to charge deposit account 07-0630                         |                            |
| 7. <input checked="" type="checkbox"/> other document (specify) Transmittal Sheet, Fee Calculation Sheet |                            |

(The following is to be filled in by the receiving Office)

1. Date of actual receipt of the purported international application:

2. Corrected date of actual receipt due to later but timely received papers or drawings completing the purported international application:

3. Date of timely receipt of the required corrections under Article 11 of the PCT:

4. Drawings ☐ Received ☐ No Drawings

(The following is to be filled in by the International Bureau)

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